

Date: Monday, 13/04/2009 8:22:26 AM
 User: Julie Dawson

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: BLADE
Job Number	: 47113		
Estimate Number	: 10327		
P.O. Number	:	Part Number	: D2741
This Issue	: 13/04/2009 S.O. No. :	Drawing Number	: D2741 REV C
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: // Type : MACHINED PARTS	Drawing Revision	: C
Previous Run	: 45320	Material	:
Written By	:	Due Date	: 27/04/2009 Qty: 40 Um: Each
Checked & Approved By	: <u>JLD 09.04.13</u>		
Comment	: Est Rev: D 00.11.15 Removed P/O turning - in house processEC Est Rev: E 06-03-20 As Per Rev C JLM Est Rev: F 06.04.20 Added grinding after heat treating EC		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	M4130NB0500X03000	4130 Bar 0.500 x 3.00
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Comment: Qty.: 1.2118 f(s)/Unit Total: 48.4722 f(s)
 4130 BAR 0.5 x 3.0"
 Material: 4130 steel bar 0.50" x 3.00"

Batch: M110 336 X20 + 2 parts.M110 860 x 20 mld 09/04/16

(40)

2.0	BAND SAW	BAND SAW
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Comment: BAND SAW
 Cut blanks 13.850" long +0.063" -0.000"

mld 09/04/16

(40)

3.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
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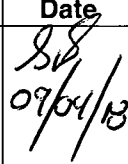
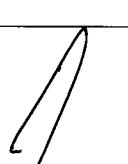

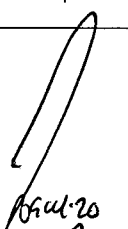
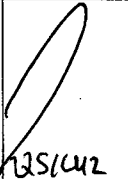
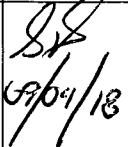


Comment: HAAS CNC VERTICAL MACHINING #1
 1-Machine per folio FA108

PTO →

S.S. 09/04/18 (42)
 M.A. 09/04/17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D2741 PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: D Date: 09/05/20
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR: 47113		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
09/01/18	3.0	Two parts are affected by a chamfer on the bottom when insert broke on 1" sandvick cutter.		Replace 2 part # Batch 1110336 - The 2 original parts are acceptable. width is to drawing. Grind off the edge on the 2 affected parts: clear.	 09/04/18	 BS1412-20		
		R.C. operator error Lack of attention. operator in training			 09/04/18	J.S. 09/04/20		

NOTE: Date & initial all entries

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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BLADE

Job Number: 47113

Part Number: D2741

Job Number:



Seq. #:

Machine Or Operation:

Description :

4.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

M.A

09/04/17

5.0

QC8

SECOND CHECK



Comment: SECOND CHECK

J.L

09/04/20

(42)

6.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Deburr

2-Bend per Dwg D2741

S.B

09/04/21

(42)

7.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 09/04/21

count

(42)

8.0

OUTSIDE SERV.30

OUTSIDE SERVICES-MACH



Comment: Sub-Contracting PURCHASING

Issue P/O: 8620

Harden material as per Dwg D2741

Min. Ultimate Tensile Strength = 152 ksi (34-40 HRC)

Min. Yield Tensile Strength = 141 ksi

Test report or Certification required

C 09/04/23

(42)

9.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive and Inspect for transit damage

Ensure Test report or Certification attached

P 09/05/12

(42)

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 09/05/13

count

(42)

11.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Pass in deburring machine

2-Grind off edges

6
Clean with washing up

09-05-14 (42)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 13/04/2009 8:22:26 AM
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Process Sheet

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Drawing Name: BLADE

Job Number: 47113

Part Number: D2741

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

POWDER COATING

POWDER COATING



MI11472



Comment: POWDER COATING pressure wash 09-05-14 x 42

Powder Coat White Gloss (Ref: 4.3.5.2) as per QSI 005 4.3

START TIME:

9:15

OVEN TEMPERATURE:

400°

FINISH TIME:

9:45

UMP

09/05/19

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



ell



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

09-05-19

x42

14.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

ST4/600

2809/05/20 x42

15.0

QC21

FINAL INSPECTION/W/O RELEASE



09/05/20 x42

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



MF 09-05-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

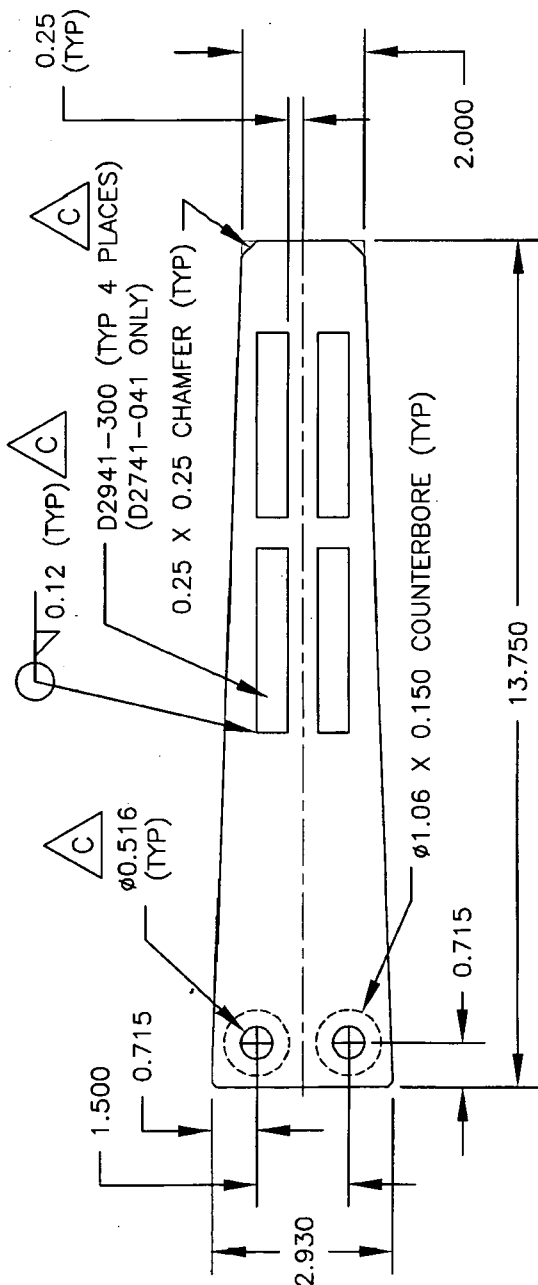
FIRST ARTICLE INSPECTION CHECKLIST

Prototype

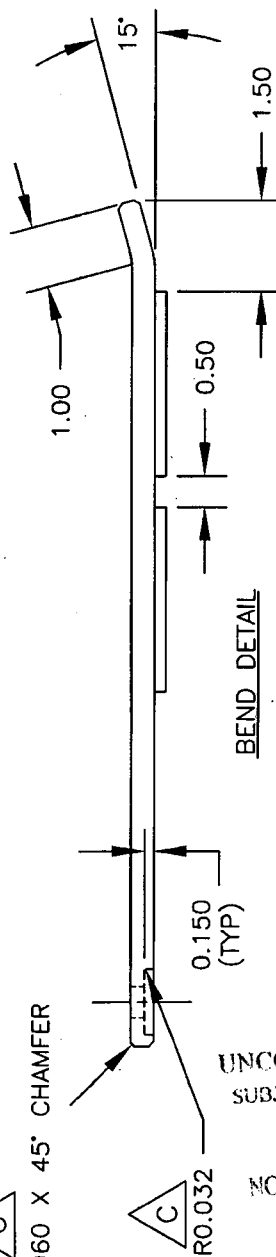
Rev	Date	Change	Revised by	Approved
A	03.12.22	New Issue	KJ/RF	
B	06.03.09	Revised per Rev. C	KJ/JLM	

DESIGN <i>PH</i>		DRAWN BY <i>PH</i>		DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED <i>[Signature]</i>		APPROVED <i>[Signature]</i>		DRAWING NO. REV. C D2741 SHEET 1 OF 1	
DATE 06.01.12			TITLE SCALE BLADE 1:3		
A	98.04.16		NEW ISSUE		
B	98.09.01		CHANGE C'SINK TO C'BORE		
C	06.01.12		LARGER HOLE,ADD RADIUS AND CHAMFER ADD -041/-043 OPTIONS		

RELEASED
06 02 07



FLAT PATTERN



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 47113

1) MATERIAL: A513 STEEL 0.375 THICK

MIN. ULTIMATE TENSILE STRENGTH = 152 ksi (34-40 HRC)
MIN. YIELD TENSILE STRENGTH = 141 ksi

2) FINISH: POWDER COAT WHITE (REF. 4.3.5.2) PER DART QSI 005 4.3

3) ALL DIMENSIONS ARE IN INCHES

4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

5) BREAK ALL SHARP EDGES 0.030 TO 0.060

6) TO MAKE D2741-041, WELD D2941-300 (4) AS SHOWN ABOVE.

REMOVE POWDER COAT FROM SURFACE OF D2941-300

77) TO MAKE D2741-043, WELD 7560 HARDCOAT ROD INSTEAD OF D2941-300

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Rapport d'inspection

Order	Load
147728	1

Customer 215
 DART AEROSPACE
 1270 ABERDEEN
 HAWKESBURY

ON K6A 1K7

Shipped To:
 DART AEROSPACE
 1270 ABERDEEN
 HAWKESBURY

ON K6A 1K7

Customer PO / PO du Client	Customer Shipper No.	Material Type / Material	Mat'l Heat Code	Lot Number
9820		4130		

PROCESSING SPECIFICATIONS

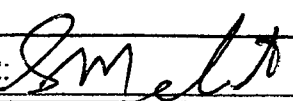

SEL HARDEN
 HARDEN AND TEMPER
 SAE AMS 2759/1 REV.D

Requirement	Specified	Tests Performed	Test Results
HARDNESS	34 - 40 HRC	42	39 - 40 HRC
TENSILE (KSI)	152 - 182 KSI		177 - 182 KSI

Quantity	Weight	Part Number / Part Description
42	148	D2741 BLADE B47113 2 BOITES DE CARTON

S
09/05/13

COMMENTS

INSPECTOR: 		DATE: 2009-05-09
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METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC J7R 5A8
Tel: 450-473-1884 / Fax: 450-491-5498

Recu de Livraison

Order	Shipper	Shipping Seq.
147728	1	31597

Shipped Complete

Customer **215**

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

Shipped To:

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

Purchase Order Number	Customer Shipper No.	Material Type	Order Date	Carrier
8620		4130	2009/4/24	FEDEX
Quantity	Part No. / Part Name / Part Description			Pounds
42	D2741 BLADE B47113 2 BOITES DE CARTON			148,

Container Type	# Of Containers	Container Comments
BOITE DE CARTON	2	

PACKING	
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Quantity Shipped: 42
Pounds Shipped: 148,00
Quantity Remaining: 0
Pounds Remaining: 0,00

Quantity Shipped:	42
Pounds Shipped:	148,00

Signature:

Date: